

In the Specification:

On page 1, after the title delete the heading "Technical Field" and insert the following:

RELATED APPLICATION

This is a U.S. national stage of application No. PCT/DE2004/002135, filed on 24 September 2004.

On page 1, amend the first paragraph as follows:

The present application is closely related to the following applications:

2003P14657, 2003P14654, and 2003P14656 Attorney Docket Nos. 502902-225PUS,
502902- 228PUS and 502902-227PUS.

On page 1, before line 5, insert the following heading:

FIELD OF THE INVENTION

On page 1, replace the heading between lines 7 and 8 with the following heading:

BACKGROUND OF THE INVENTION

On page 2, amend the paragraph beginning on line 14 as follows:

It is an object of the present invention to provide an LED-based illumination system with improved color rendering ~~in accordance with the preamble of claim 1 with a color rendering which is as high as possible~~. A further object is to provide a tunable illumination system.

On page 2, delete the paragraph beginning on line 18 through line 19 in its entirety and insert the following:

These and other objects are attained in accordance with one aspect of the present invention directed to a high-efficiency LED-based illumination system with improved color rendering, simultaneously exploiting the color-mixing principle of blue, green and red (RGB mixing) and the principle of converting a primary radiation emitted by an LED into light with a longer wavelength by means of a phosphor which at least partially absorbs this radiation, at least two LEDs being used, of which a first LED emits primarily in the range from 340 nm to 470 nm (peak wavelength), in particular at least 420 nm, and a second LED emits in the red region at 600 to 700 nm (peak wavelength), wherein the green component is produced by the primary radiation of the first LED being at least partially converted by a green-emitting phosphor, the green-emitting phosphor used being a phosphor from the class of the oxynitridosilicates, having a cation M and the empirical formula $M_{(1-c)}Si_2O_2N_2:D_c$, where M comprises Sr as a constituent and M = Sr alone or M = $Sr_{(1-x-y)}Ba_yCa_x$ with $0 \leq x+y < 0.5$ being used, and the oxynitridosilicate completely or predominantly comprising the high-temperature-stable modification HT.

On page 3, amend the paragraph beginning on line 14 as follows:

The illumination system according to an embodiment of the invention makes simultaneous use of the ~~color mixing principle of blue, green and red (RGB mixing)~~ and the ~~principle of converting a primary radiation emitted by an LED into light with a longer wavelength by means of a phosphor which absorbs this radiation, at least two LEDs being used, of which a first LED emits primarily in the range from 340 to 470 nm (peak wavelength), in particular at at least 420 nm, and a second LED emits in the red region at 600 to 700 nm (peak wavelength), wherein the green component is produced by the primary~~

~~radiation of the first LED being at least partially converted by a green emitting phosphor, the green-emitting phosphor used being a phosphor~~ from the class of the oxynitridosilicates, having a cation M and the empirical formula $M_{(1-c)}Si_2O_2N_2:D_c$, M comprising Sr as a constituent and D being doped with divalent europium, with M = Sr, or M = $Sr_{(1-x-y)}Ba_yCa_x$ with $x+y < 0.5$ being used, the oxynitridosilicate completely or predominantly comprising the high-temperature-stable modification HT.

On page 3, amend the paragraph beginning on line 28 through page 4, line 6 as follows:

~~The invention proposes the use of~~ An embodiment of the invention uses a phosphor which represents an oxynitridosilicate of formula $MSi_2O_2N_2$ (M = Ca, Sr, Ba) which is activated with divalent Eu, if appropriate with the further addition of Mn as co-activator, with the HT phase forming the majority or all of the phosphor, i.e. more than 50% of the phosphor. This HT modification is distinguished by the fact that it can be excited within a broad band, that it is extremely stable with respect to external influences, i.e. does not reveal any measurable degradation at 150°C, and that it has an extremely good color locus stability under fluctuating conditions (little drift detectable between 20 and 100°C). Further plus points include its low absorption in the red, which is particularly advantageous in the case of phosphor mixtures. This phosphor is often also referred to below as Sr Sion:Eu.

On page 12, delete the heading between lines 2 and 3 in its entirety.

On page 12, delete the paragraph beginning on line 3 through line 4 in its entirety.

On page 12, before line 5, insert the following:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 12, replace the heading between lines 15 and 16 with the following heading:

DETAILED DESCRIPTION OF THE DRAWINGS